

## TITLE OF THE INVENTION

Orthopedic Appliance.

## CROSS-REFERENCE TO RELATED APPLICATIONS

There are no related applications.

## STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

This invention was not made using federally sponsored research or development. The inventor retains all rights.

## BACKGROUND OF THE INVENTION

This invention falls within the field of orthopedic appliances and more specifically the field of orthopedic back supports. It is not a chair, but is instead a portable orthopedic appliance which the patient can use with the various chairs the patient uses in the course of a day. This invention falls within the field of orthopedic appliances to which a thermal charge can be added, either hot or cold, thereby enhancing the comfort and therapeutic benefits to the patient.

The prior art discloses foam rolls, pads, and pillows that can be used as supports for either the cervical or lumbar vertebrae. One of the pads has contours to fit into the cervical region and has arms deformable to fold around a chair headrest. One of the pads is a back support pad which has straps to hold it to a chair back. One of the pads is a plurality of inflatable bladders adjustably positionable along a strap-like positioning member. One of the pads is a back support device

having a bonnet adapted to be connected to a seat back and an inflatable support cushion adapted to be adjusted along a pair of spaced apart flexible guide straps. One of the pads involves a U-shaped outer cushion forming a central opening into which a cushion insert will fit and be held by a Christmas tree type fastener. One invention involves a linear alignment support having one or more pairs of bi-pad supports so a pad will be on each side of the user's spine. One set of pads comprises a T shaped or I shaped assemblage of semi-cylindrical cushions that can be attached to each other. One seat back has loop fastener and comes with a set of at least three cushions that have hook fastener and can be placed adjustably around on the surface of the seat back. There is a wheel chair with a plurality of pads which can be adjusted up or down on a vertical rigid support rod the better to conform to the contours of the user's body.

The prior art also discloses thermal packs that can be attached to various parts of the body by straps or hook and loop fastener. One of them seems adapted to go around a wrist or ankle while another is a vest which will hold thermally charged packs against the wearer's back.

## BRIEF SUMMARY OF THE INVENTION

This invention is an orthopedic appliance that provides support, restoration of neck and spinal curvatures, and effective therapeutic treatment via the use of hot and cold applications. There is a cervical support which goes against the patient's mid-neck region and a lumbar support which goes against the small of the patients lower back. Each of these supports is attached to and held in place against a chassis by structural hook and loop fastener which is on their respective mating surfaces. The patient uses heat or cold to treat the enclosed gel pack depending on the physician's recommendation. The gel pack is then placed in a sleeve together with the chassis-supports

assemblage, a flap closes the sleeve and fastens shut using hook and loop fastener, and the patient sits against the orthopedic appliance. The supports are between the chassis and the gel pack so a properly contoured, thermally adjusted surface is against the patients back.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Figure 1 is an exploded view of the invention showing the various subunits.

Figure 2 is a sectional view of the invention showing the respective positions of the subunits when the invention is assembled.

Figure 3 shows a plan view of an alternative embodiment of the invention.

#### DETAILED DESCRIPTION OF THE INVENTION

This invention is an orthopedic appliance that provides support, restoration of neck and spinal curvatures, and effective therapeutic treatment via the use of hot and cold applications. It is constructed to augment the naturally occurring curves of the neck and back while providing physical therapy to the muscles and other soft tissues. The normal spinal curvatures and integrity of the muscles and connected tissues would be augmented significantly reducing the likelihood of future injuries.

The invention provides treatment to neck and back simultaneously. It allows for treatment to be undertaken at home, work, or at the doctor's office and will potentially save millions in treatment costs. The user would be able to treat himself safely and efficiently at home drastically reducing out of pocket and insurance cost. The frequency of visits to the physician's office will be reduced because the invention efficiently and effectively resolves neck and back problems.

The patient uses heat or cold to treat the enclosed gel pack (1) depending on the physician's recommendation. The gel pack is then placed in the sleeve (2) and the patient sits against the orthopedic appliance. The cervical support (3) goes against the mid-neck region and the lumbar support (4) goes against the small of the lower back. The invention thus provides support to the entire spine (neck, mid-back, and lower back). Structural hook and loop fastener (5) on the surface of a main chassis (6) connects to its mating surfaces found on the cervical support (3) and lumbar support (4). The thermally adjusted gel pack (1) is then conformed to fit over the cervical support (3) and lumbar support (4) in their positions on the chassis and the whole is then inserted into the sleeve (2). Closure hook and loop fastener (7) is then used to close the aperture of the sleeve (8) so the structure is fully assembled as seen in Figure 2.

There are orthopedic appliances known to the art which either are for the neck or for the back. There is no combination neck and back appliance that provides treatment to both areas while the patient is seated. Neck and back conditions are the most common cause of job absenteeism in the U.S. and are thought to be the most common injury in the workplace. This idea, which will tremendously reduce the cost and the time needed to recover from these ailments and therefore this invention uniquely fills a great societal need. All groups of people from children to senior citizens, whoever experiences neck and back pain or injury, will be able to use this invention which was developed as a result of the 20 years of chiropractic experience of the inventor, Dr. Arthur L. Carlisle.

The appliance is rectangular in shape and is constructed of polyurethane, or other plastic, VELCRO hook and loop fastener, and a non-toxic gel pack. The preferred embodiment has no moving parts per se, but is instead a set of articles of manufacture that fit together according to a

schema. There is an alternative embodiment that is variable in height for taller or shorter patients, or the invention may be foldable for carrying purposes. These alternative embodiments have some moving mechanical parts. The height variable embodiment is seen at Figure 3. A central pad (9) has all the elements assembled as seen in the embodiment at Figure 2. An upper telescoping connector (10) connects the central pad to the head rest (11). A lower telescoping connector (12) connects the central pad to the lower support (13). The lower telescoping connector and the lower support may be omitted in an alternative embodiment. The invention may be provided with an electrical pad for heating and so an embodiment is possible which has a simple electronic circuit, little more than a switch, a resistor (heating coil), a thermostat, and a power source.